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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/598,154

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Keiichi Chono

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EXAMINER

HOLDER, ANNER N

ART UNIT

PAPER NUMBER

2483

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/598,154	Applicant(s) CHONO ET AL.	
	Examiner ANNER HOLDER	Art Unit 2483	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-23 and 25-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8,11-19,22-30 and 33 is/are rejected.
- 7) ☐ Claim(s) 9,10,20,21,31 and 32 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 August 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. Figures 1, 2, and 7 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Allowable Subject Matter

3. Claims 9-10, 20-21, and 31-32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 23 and 25-33 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 23 and 25-33 recite "an image encoding control program" which is non-statutory subject matter. The recite limitation is merely software, and it has been held that software without a required computer-readable medium storing software that, when executed, causes the computer to perform a particular process or method (MPEP 2106.01) is merely nonfunctional descriptive material and non-statutory under 35 U.S.C. 101.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-8, 11-19, 22-30 and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Hibi et al. US 5,724,097.

8. As to claim claims 1, 12 , and 23, An image encoding apparatus [fig. 35; col. 27 lines 37-39] which comprises transformation means [fig. 35 (82); col. 27 lines 42-43] for generating a transformation coefficient for each block by transforming an image from a spatial domain into a frequency domain for each block, [fig. 35; col. 27 lines 42-47] characterized by comprising quantization means [fig. 35 (84); col. 27 lines 47-50] for quantizing the plurality of transformation coefficients for each block by using the same quantization width, [fig. 35 (84); col. 27 lines 47-65, quantization step is being read upon

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the quantization width] wherein said quantization means [fig. 35 (84); col. 27 lines 47-50] comprises means for quantizing the transformation coefficient upon setting a dead zone for each block. [fig. 35; col. 27 lines 37-67]

9. As to claims 3, 14 and 25, Hibi teaches dead zone generating means [fig. 35 (87 and 88); col. 27 lines 39-55] for setting a dead zone width corresponding to a visual sensitivity for each block. [fig. 35; col. 27 line 67 - col. 28 line 6; col. 28 line 35 - col. 29 line 7]

10. As to claims 4, 15 and 26, Hibi teaches dead zone generating means [fig. 35 (87 and 88); col. 27 lines 39-55] comprises dead zone scale generating means for setting the dead zone width to a larger width for a block with lower visual sensitivity in the spatial domain. [col. 29 lines 8-41]

11. As to claims 5, 16 and 27, Hibi teaches dead zone generating means [fig. 35 (87 and 88); col. 27 lines 39-55] comprises dead zone scale generating means or setting a dead zone width larger than a dead zone width with a predetermined quantization characteristic to a block with lower visual sensitivity in the spatial domain. [fig. 35 (88); col. 27 lines 39-55; col. 29 lines 8-28, dead zone width is increased by $\frac{3}{2}$ to $2q$ (quantization step)]

12. As to claims 6, 17 and 28, Hibi teaches dead zone generating means [fig. 35 (87 and 88); col. 27 lines 39-55] comprises dead zone scale generating means [fig. 35 (88); col. 27 lines 39-55] for analyzing visual sensitivities of a plurality of blocks, [col. 28 lines 35-67] and setting the dead zone width to a larger width for a block with lower visual sensitivity of the plurality of blocks. [col. 29 lines 8-41]

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13. As to claims 7, 18 and 29, Hibi teaches dead zone generating means [fig. 35 (88); col. 27 lines 39-55] comprises dead zone scale generating means [fig. 35 (88); col. 27 lines 39-55] for analyzing visual sensitivities of a plurality of blocks, [col. 28 lines 35-67] and setting a dead zone width larger than a dead zone width with a predetermined quantization characteristic to a block with lower visual sensitivity of the plurality of blocks. [col. 29 lines 8-41]

14. As to claims 8, 19 and 30, Hibi teaches transformation means [fig. 35 (82); col. 27 lines 42-43] for generating a transformation coefficient for each block by transforming an image from a spatial domain into a frequency domain for each block, [fig. 35; col. 27 lines 42-47] characterized by comprising quantization means [fig. 35 (84); col. 27 lines 47-50] for quantizing the plurality of transformation coefficients for each block upon setting the same quantization width in the plurality of blocks, [fig. 35 (84); col. 27 lines 47-65, quantization step is being read upon the quantization width] wherein said quantization means [fig. 35 (84); col. 27 lines 47-50] comprises dead zone generating means [fig. 35 (88); col. 27 lines 39-55] for analyzing visual sensitivities of the plurality of blocks, [col. 28 lines 35-67] determining the quantization width in accordance with a block exhibiting high visual sensitivity, setting a dead zone width larger than a dead zone width of the block exhibiting high visual sensitivity to a block with lower visual sensitivity, [col. 29 lines 8-41] and quantizing the transformation coefficient. [fig. 35; col. 27 lines 37-67; col. 28 lines 35-52]

15. As to claims 11, 22 and 33, Hibi teaches transformation means [fig. 35 (82); col. 27 lines 42-43] for generating a transformation coefficient for each block by transforming

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an image from a spatial domain into a frequency domain for each block, [fig. 35; col. 27 lines 42-47] characterized by comprising quantization control means [fig. 35 (84); col. 27 lines 47-50] for calculating an ideal quantization parameter for encoding an input moving image with preferable image quality, [fig. 35 (89); col. 27 lines 47-65; col. 28 lines 35-52, code amount control output is being read upon the quantization parameter] dead zone scale generating means [fig. 35 (88); col. 27 lines 39-55] for evaluating a relationship between a quantization width corresponding to the ideal quantization parameter, and a quantization width corresponding to a quantization parameter used for encoding output, [fig. 35 (89); col. 27 lines 47-65; col. 28 lines 35-52, code amount control output is being read upon the quantization parameter] and quantization means [fig. 35 (84); col. 27 lines 47-50] for quantizing the transformation coefficient upon setting the dead zone width in correspondence with the evaluated relationship. [fig. 35; col. 27 line 37 - col. 28 line 67]

Conclusion

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANNER HOLDER whose telephone number is (571)270-1549. The examiner can normally be reached on M-W, M-W 8 am-3 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Ustaris can be reached on 571-272-7383. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Anner Holder/
Examiner, Art Unit 2483

/Dave Czekaj/
Primary Examiner, Art Unit 2483